

**2002 ANNUAL REPORT  
BOARD OF CERTIFICATION OF OPERATING  
PERSONNEL IN WASTEWATER  
TREATMENT FACILITIES  
IN COMPLIANCE WITH  
SECTION 340B-12, HAWAII REVISED STATUTES**

**CHAPTER 61 OF TITLE 11  
ADMINISTRATIVE RULES  
ADOPTED ON OCTOBER 10, 1981  
GOVERNS THE BOARD OF CERTIFICATION**

**PREPARED BY:  
BOARD OF CERTIFICATION  
STATE OF HAWAII  
DECEMBER 2002**

# **2002 ANNUAL REPORT**

## **BOARD OF CERTIFICATION OF OPERATING PERSONNEL IN WASTEWATER TREATMENT FACILITIES**

### INTRODUCTION

Efficient management of wastewater treatment works is an important economic asset to the public, to county and state officials, and to operators. Also, effective operation and maintenance of wastewater treatment works are essential to prevent pollution of the waters of the state. Furthermore, certification of wastewater treatment works operators assures the employment of personnel competent to provide efficient management, and proper maintenance and operation of wastewater treatment works.

### ORGANIZATION

This Annual Report summarizes the Board's activities and accomplishments during 2002. It also provides information about the Board's organizational structure.

#### Organizational Structure

Members of the Board are appointed for a four-year term. The Board is comprised of the following members:

Roger Babcock	- Chair, Ph.D., University of Hawaii
Marshall Lum	- State Department of Health
Wayne Salas	- Operator, City & County of Honolulu
Myron Nomura	- Professional Engineer in private practice
Bert Uyeno	- Operator, County of Kauai
Charles Dawrs	- Operator, County of Hawaii
Allen Souza	- Operator, County of Maui
Robert Valentine	- Operator, private sector
Solomon Naone	- HWEA representative

The Board is assisted by a clerk/typist who is assigned to the Wastewater Branch, State Department of Health. Joe Padron, who served on the board from 1995 to June 2002, retired from the State of Hawaii. Marshall Lum of the Wastewater Branch, Department of Health, Charles Dawrs of the County of Hawaii, and Myron Nomura a professional engineer from the private sector were inaugurated in July 2002 as the new board members. Additionally, Dennis Tulang, Chief of the Wastewater Branch, State Department of Health oversees the funding of the Board.

## Board Meetings During 2002

During the calendar year, the Board held six meetings on:

January 10-11

May 10

September 6

March 8

July 11

November 8

## SUMMARY OF CERTIFICATION EXAMINATIONS

The Board conducted two examinations statewide for all grades of wastewater treatment plant operators during 2002. The first in February 2002 and the second in August 2002. The results of these examinations are depicted in the following tables:

### **February 2002 Examination**

<b>Grade</b>	<b>Pass</b>	<b>Total</b>	<b>Passing %</b>
1	2	4	50
2	3	12	25
3	1	18	5
4	8	41	20
Total	14	75	20

### **August 2002 Examination**

<b>Grade</b>	<b>Pass</b>	<b>Total</b>	<b>Passing %</b>
1	8	11	73
2	8	15	53
3	2	12	17
4	2	32	6
Total	20	80	25

## COMPARISON OF PASSING PERCENTAGES

### Statewide

Date of Exam	Grade 1	Grade 2	Grade 3	Grade 4
August 2002	73	53	17	6
February 2002	50	25	5	20
August 2001	69	20	4	8
February 2001	33	20	22	5
August 2000	70	57	23	31
February 2000	38	31	46	15
August 1999	25	45	20	3
February 1999	59	41	10	11
August 1998	71	56	27	38
February 1998	25	39	31	30

### **STATISTICS:**

A total of 155 operators took the examination in 2002 of which 34 passed for an overall passing rate of 22 percent. As shown in the above table, the passing percentages for all grades have been fluctuating during the past four years.

Passing percentages for Grade 1 ranges from 25% to 73%, Grade 2 ranges from 20% to 57%, Grade 3 ranges from 4% to 46%, and Grade 4 ranges from 3% to 38%.

Passing percentages for Grades 3 and 4 were particularly low during the year as compared to past years for no apparent reasons.

During year 2001, a total of 158 operators attempted the examination and 26 passed. Majority of the examinees are “repeaters” who are familiar with the format and types of questions in the examination. The members of the Board of Certification agree that the questions in the examination are fair.

## ASSOCIATION OF BOARD OF CERTIFICATION EXAMINATION (ABC) PASSING PERCENTAGE COMPARISON

<b>Hawaii's vs National Average</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>Grade 4</b>
Hawaii's 2002 Average	67	41	10	14
Hawaii's 2001 Average	54	20	12	7
Hawaii's 2000 Average	56	44	37	23
Hawaii's 1999 Average	50	43	15	7
Hawaii's 1998 Average	48	47	29	33
Hawaii's 1997 Average	71	45	28.5	21
National Average	69	46	36	36

The average passing rate for Grade 1 in 2002 is higher than previous years. The passing rates for Grades 2 increase 100 percent as compared to 2001. Grades 3 and 4 are below the national average.

Operators have been encouraged to enroll in correspondence courses provided by California State University Sacramento (CSUS) and in courses offered by the Statewide Wastewater Operator Training Center. Only a minority of the operators have enrolled and completed the CSUS correspondence courses and only a fraction of the operators are attending classes offered by the Training Center.

The ABC Certification Examinations questions reference the courses offered by CSUS. Analysis has proven time and time again that the majority of the operators who have completed the CSUS courses and have taken courses offered by the training center are passing the ABC Certification examinations.

## STATEWIDE WASTEWATER OPERATOR TRAINING CENTER

The State Department of Health established the training center 14 years ago in September 1988. During 2002, the training center conducted 81 training sessions statewide for 500 registrants.

Training courses included introductory basic wastewater courses to more complex advanced courses such as activated sludge, sludge conditioning and anaerobic digestion. Two new courses "Biological Nutrient Removal Workshop" and "Trickling Filters/Solids Contact" were conducted by Woodie Muirhead of Brown and Caldwell for the City and County of Honolulu at the Sand Island Wastewater Treatment Plant. A new Industrial Hydraulic Course was introduced and conducted on November 8-9, 2001 for the City and County of Honolulu.

The Board of Directors of the Training Center has placed great emphasis in improving the quality of the training program. During the past year the following new programs were purchased: maintenance training videotapes and textbooks from Primedia Inc.; pump CD-ROM from Water Environment Federation; and a new study guide for the certification examination refresher course. A new CD-ROM titled "Solids Handling" was purchased and delivered to each county.

An analysis of all examinees who have successfully completed wastewater treatment plant operator courses with the training center have significantly better results than examinees who did not participate in the training program.

### JOINT MEETING

The Board of Certification meets on an annual basis in November with the Board of Directors of the Statewide Wastewater Operator Training Center to discuss issues pertaining to the training and certification program. These annual meetings have been beneficial and will be continued. The Boards agree the passing percentages of the exams could improve. The counties, especially the outer islands, have been encouraged to implement additional training and refresher courses for their personnel.

The manager of Aqua Engineers, Inc. of Kauai has purchased a lap top computer equipped with a CD-ROM wastewater training program for his personnel and has implemented a training seminar utilizing the textbook from California State University.

As discussed in the previous section, the Training Center recently purchased computer hardware along with the "System-Two CD-ROM Wastewater Treatment Plant Operations Course" and the "Activated Sludge Process Control CD-ROM Course" for each county. Counties have reported that their operators are utilizing these new interactive training CD-ROMs.

### WASTEWATER BRANCH, DEPARTMENT OF HEALTH

The Operation and Maintenance Section of the Wastewater Branch has assisted the board in providing the information and vital data of all wastewater treatment plants (WWTPs) requiring classification. The Board currently maintains a computer file of 174 WWTPs in the state.

## OTHER SERVICES PROVIDED BY THE BOARD OF CERTIFICATION

Services	1999	2000	2001	2002
Total number of operators:				
Permanent Certifications (Annual Renewals)	<b>460</b>	<b>461</b>	<b>466</b>	<b>460</b>
Conditional Certifications (Annual Renewals)	<b>16</b>	<b>14</b>	<b>14</b>	<b>8</b>
Requests for temporary certificates	12	6	12	3
Requests for reciprocity certificates	5	6	7	3
Evaluation of college transcripts	10	21	15	14
Classification of Treatment Plants	5	12	28	14

A number of wastewater treatment plant operators have completed college/university courses. The Board evaluated these courses that are related to the wastewater profession and awarded “continuing educational units” (CEUs). CEUs are required as part of the educational requirements for certification examinations in addition to work experience.

## SIGNIFICANT BOARD ACTIONS

The primary goal of the certification program is to ensure that all wastewater treatment plants are operated by qualified personnel. During the year, the Board achieved the following objectives:

1. Continued to review and determine the number of CEUs of new training courses offered by the training center and other institutions;
2. Continued to classify or reclassify wastewater treatment facilities throughout the state;
3. Resolved concerns submitted by operators regarding applications and qualifications for examination;
4. Continued the Board's efforts to inform operators of the Board's functions and decisions via the Board's minutes of the meetings. Meetings are open to any operator interested in making a presentation before the Board;

5. Continued utilizing ABC Services for the development and scoring of the bi-annual certification examinations. The ABC Services standardized examinations consist of two components: 90 core questions and 10 supplementary questions. The core questions must be used by each client. The 10 supplementary questions are selected by the Board from a pool of 25 questions provided by ABC Services.
6. Evaluated applications for reciprocity from out-of-state operators;
7. Held an annual joint meeting with the Board of Directors of the Statewide Wastewater Operator Training Center which was considered beneficial for both Boards. Proposals from these annual joint meetings have improved the training and certification programs;
8. Continued to provide information of the certification program, lists of CEUs/training earned, issuance of certificates and other matters such as the renewal of licenses;
9. Reviewed and updated all forms and related instructional sheets;
10. Developed a "Code of Ethics for Wastewater Operators." This Code will be distributed to all operators statewide;
11. Developed proposed amendments to Title 11, Chapter 61, Mandatory Certification of Operating Personnel in Wastewater Treatment Facilities. (Governor Cayetano approved the proposed amendments in January 2002.); and
12. Reviewed and approved the Hawaii Environment Association's Pre-Conference Workshop for the 24<sup>th</sup> Annual Conference on February 6-8, 2002. One (1) continuing-educational-unit was granted for each of the workshops: "Reading and Interpreting Design Drawings" and Selected Topics in Secondary Biological Treatment" that was conducted on February 6<sup>th</sup>. Operators attending the conference on February 7 and 8 also are earn one (1) CEU for day.

#### Schedule of Meetings for Year 2003

The Board has scheduled six (6) meetings for the coming calendar year in:

January  
March

May  
July

September  
November



General business to be conducted at these meetings includes:

1. Hold informational meeting with operators;
2. Review and process applications for certification examinations and conduct two examinations;
3. Preview and prepare responses to correspondence received from operating personnel and other related agencies;
4. Review and approve operator applications for temporary certificates; and
5. Review and issue reciprocity certifications to qualifying operators from other states.

Expenditures During the Year (July 2001 to June 2002):

Object Code	Title	Cost
3020	ABC Examinations	\$4,840
3510	Membership Dues	1,000
3690	Air Freight	142
3990	Supplies	324
4210	Airline Coupons	2,784
4310	Travel Per Diem	1,194
4610	Car Rental	233
	Total	\$10,517

Significant Issues Impacting the Board

Act 238, SLH 1999 amended Chapter 340B, Hawaii Revised Statutes (HRS) which established the Wastewater Treatment Certification Board (WTCB) Special Fund. The revenues for this fund are generated from moneys collected for registration, renewal, reciprocity and temporary certificate fees and are to be used specifically for financing the operations of the Board.

